Participation, Power and Sustainable Water Resource Management, A Case Study of The Rainfed Desert Region of Matruh, Egypt.

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Abstract

Water resources are under dire social, economic and environmental threats, especially in developing countries. Stakeholders' participation in water resource management is widely advocated to address these needs but its outcomes are difficult to trace. The concept of IWRM is advanced as a framework to reform water governance that aims to tackle conflicting interests between stakeholders' and water-related sectors. Using qualitative field data from the rainfed desert region in Matruh, Egypt, the paper evaluates the contribution of small-scale stakeholders' participation in advancing IWRM with the variables of equitable allocation, empowerment and sustainability. This paper analyses whether stakeholders' participation fosters a sustainable use of natural resources. It argues in its case study that the political processes of water management are rarely considered in IWRM. Consequently, equity and empowerment gains are captured by power differentials. This constrains its potential for sustainability. By doing so, it expands the literature on IWRM from a political sociology angle.

1. Introduction and Literature Review

Water governance is experiencing a paradigm shift, in which Integrated Water Resource Management (IWRM) is advocated as the response to social, economic and environmental priorities in a world of scarce water. In this paradigm, stakeholders' participation is a key process to achieve sustainable water resource management. The debate centres on the capacity of IWRM to fulfil its equitable and sustainability mandate. The purpose of this paper is to explore the linkages between stakeholders' participation and water resource management in order to determine if larger stakeholders' involvement allows for a more sustainable natural resource management. Qualitative data collected in the rainfed desert region of Matruh, Egypt, was analysed with the help of participation concepts as an evaluation grid for IWRM. This paper emphasises the political processes that challenge sustainability in integrated management by engaging with the politics of water governance (Mollinga, 2008) and participatory decision-making (Cooke & Kothari, 2001) in order to establish an analytical framework. Therefore, it posits that power differentials have to be challenged in water governance. It thus contributes to the discussion on the politics underpinning IWRM and their impact on the most marginalized stakeholders (Hepworth & al., 2011). With such an end, this section analyses the relevant literature and presents an analytical framework, the second section gives context to the case study and methodology, and the third section discusses the findings. Finally, the fourth draws conclusions.

Traced back to the Mar del Plata Conference in 1977, the policy framework of IWRM has been advocated as a comprehensive and participatory approach to improve quality, access and sustainability of water resources (Rahaman & Varis, 2005). The Global Water Partnership states that IWRM "promotes co- coordinated development and management of water, land and related resources, in order to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital systems" (GWP-TAC, 2000, p.22). This section engages with the debates on IWRM and its specific promotion of stakeholders' participation. It acknowledges the conceptual deficiencies of such a framework on the basis of water politics. Specifically, Pahl-Wostl (2007, p. 9) argues that IWRM requires "integrated decision-making" which provides the justification for participation. It implies a paradigm shift towards a systems approach where the human-environment dimension is reaffirmed by the transformative force of social learning (Pahl-Wostl, 2002). Despite the comprehensive and pragmatic stance of the systems approach (Saravanan, 2008); it does not fully solve the social and political impediments to integration. The rationale for participation based on Habermas' logic of ideal speech situation is shown to rely on unrealistic assumptions of power relations (Saravanan & al., 2009). This literature review addresses the role of empowerment differentials in participatory approaches and their impact on the realization of IWRM. The political sociology approach shows that the potential of participation in IWRM for equitable allocation, empowerment and sustainability is shaped by socio-political factors of water control (Mosse, 2001). In line with Mollinga (2008), the present paper reaffirms the role of politics of water as a "politically contested resource" in order to assess if stakeholders' involvement can lead to a sustainable use of natural resources. Bringing back the politics of water management into the discussion on IWRM, which hitherto has been considered as a technical fix based on the river basin concept, contributes to the debates on water management and participation. This paper aims at bridging the two debates by highlighting how politics of water management influence the achievements of IWRM and its potential for sustainability.

1.1 Allocation

As opposed to the Habermasian approach, Allan (2003; 2005) contradicts the assumption that power negotiations transform institutions and power structures. In fact, IWRM overlooks the crucial issue of water allocation, which is a product of local politics and conflict. The focus on water control allows examining water governance and collective action outcomes according to social organization and local ecologies. A main weakness of participation approaches is their conflation with equity and equal representation of interests (Lele, 1991). In fact, it can be claimed that participative processes lead systematically to unjust and illegitimate exercises of power, therefore implementing a 'new tyranny' (Cooke & Kothari, 2001). In this context, the use of participation for equitable allocation aims is flawed by an unrealistic vision of the community and often results in elite capture (Corbridge & Kumar, 2002). This argument establishes that an inadequate definition of poverty leads to the failure of understanding the community as socially differentiated. In order to assess if IWRM can achieve equitable allocation, this paper builds on Allan's theory (2003) that equitable water allocation results from political processes. These concerns for allocation require taking into account a dynamic stakeholders' analysis when investigating IWRM implementation (Gyawali & al., 2006). Since a major aim of integration is to achieve equitable allocation among stakeholders, it uses the concept of elite capture to examine whether the allocation of water resulting from IWRM practice brings equitable allocation of water at the community-scale and at the national scale (Corbridge & Kumar, 2002; Agrawal & Nelson, 2008).

1.2 Empowerment

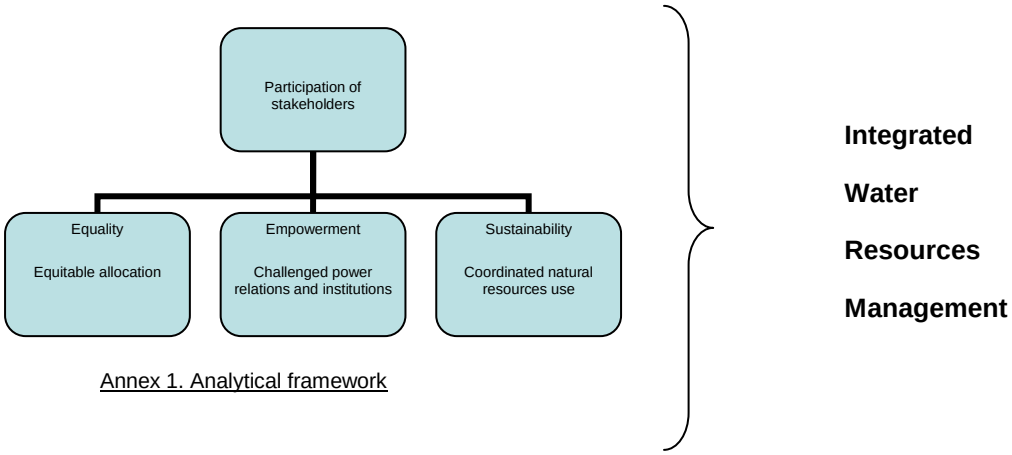
Moreover, it is interesting to highlight how participatory methodologies interplay with IWRM. This form of management is thought to empower the most vulnerable by promoting their local knowledge and strengthening their bargaining power (WWF, 2006). However expectations of better quality policies induced by participatory approaches are limited by the politics of presence, informed participants and lack of representativeness (Cass, 2006). The phenomenon is reinforced by politics of patronage from the state, either to pursue its legitimising aims or to expand its power and political support (Agrawal & Nelson, 2008). The principles of integrated water management assert that empowerment is targeted to challenge the existing power order (Rahaman & Varis, 2005). However, policy incorporation of local knowledge is limited by the overlook of genuine collective decision-making organs and the insistence on formal institutions and mandatory participation (Cass 2006; Saravanan et al., 2009; Biswas, 2004; Cleaver 1999). Therefore, 'empowerment differentials' are major impediments to the success of participatory water decision-making (Mirumachi & VanWyk, 2010). In fact, they restrain engagement and effective participation. While a claim is that IWRM is effective in bridging together the multi-dimensions and inter-linkages of water, it remains weak in addressing power differentials and conflict resolution (Mollinga, 2008). Drawing on the politics of water management, the paper posits that local people empowerment in water management is constrained by power differentials and strategic behaviours. This entails looking at the extent of stakeholders' claim-making capacity, local knowledge inclusion and central authorities' responsiveness in a dynamic of power transfer (Ribot, 2004).

1.3 Sustainability

Finally, the added-value of IWRM for sustainability is examined in the light of the theoretical concerns for participatory methodologies and the practical aspects of integration. The argument for participation in IWRM is structured by the complexity and intersection of social and environmental changes. Facing theses changes, only integrated management is assumed able to achieve the goals of equity and sustainability (Pollard & DuToit, 2008; Pahl-Wostl, 2002). Adding up to the previous requirements of equitable allocation, challenged power relations and integrative policy-making, the sustainability objectives of IWRM are linked to co-ordinated resource use. More precisely, this implies to consider inter-linkages between land and water uses. However, as Allan (2003) points out short-term objectives often prevail over environmental considerations in water policy-making. Attaining sustainability entails to adopt an approach beyond the watershed and away from water policy-making as a technical fix. Sustainability is achieved as the outcome of a discursive framework, which tackles allocation problems among stakeholders (Allan, 2005). Therefore, examining integrated participatory water management along the line of politics and power differentials allows determining whether integration is "politically feasible" (Allan, 2003, p. 5) and whether it happens (Saravanan & al., 2009). The paper evaluates how politics of water management at the local and national levels influence the achievements of IWRM and its potential for sustainability. This is done in line with a concept of sustainability as "the discursive outcome of the articulated concerns of society, economy and environment" (Allan, 2005, p.191). This research focuses on the structure of participation; the capacity built from the process and the management outcomes arising from the process (Abelson et al., 2001).

The literature on participatory approaches underscores their equality, empowerment and integrative policy-making gains. On this basis, the proponents of Integrated Water Resource Management claim that stakeholders' participation to their local watershed governance will help achieving integrated management. Therefore, this paper uses the threefold aspects of

participation to evaluate the extent of integrative water management and its potential for sustainable development. Attaining IWRM entails designing a project that provides equitable allocation of resources; empowers stakeholders and coordinates resources uses. In this paper, these three parameters frame the evaluation grid for the case study (annex 1).



Annex 1. Analytical framework

2. Case Study and Methodology

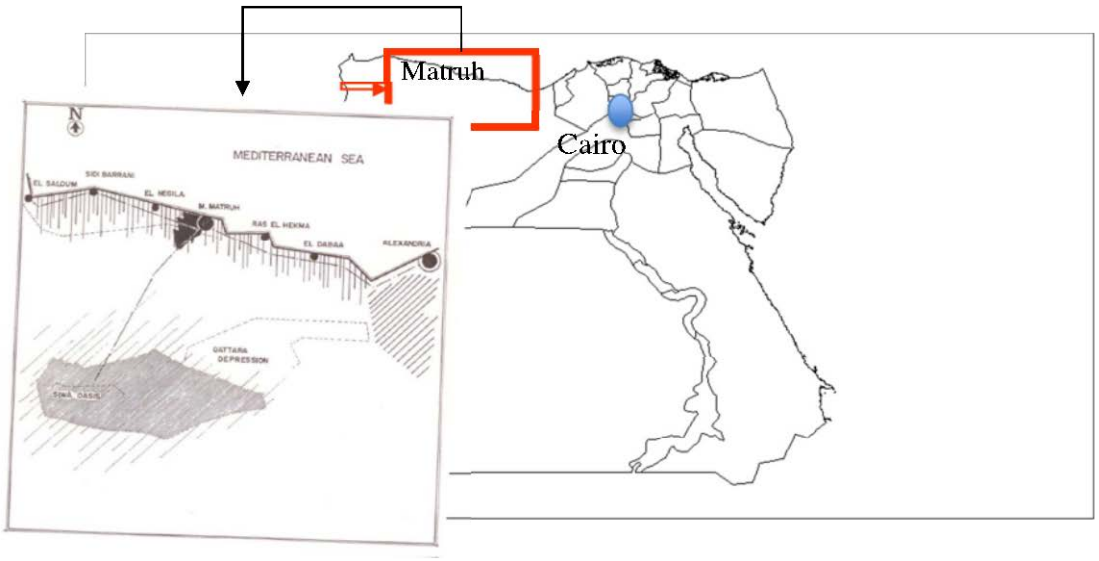
The study focuses on Egypt, which water management challenges are unique due its dependence on the Nile water. The main stakeholders in water management are the Ministries for Water (MWRI) and of Agriculture (MALR). Furthermore, the government of Egypt has pledged to the principles of IWRM in its National Water Resources Plan (NWRP). Given its mandate for "sustainable use of natural agricultural resources", MALR conforms to the requirements of IWRM.

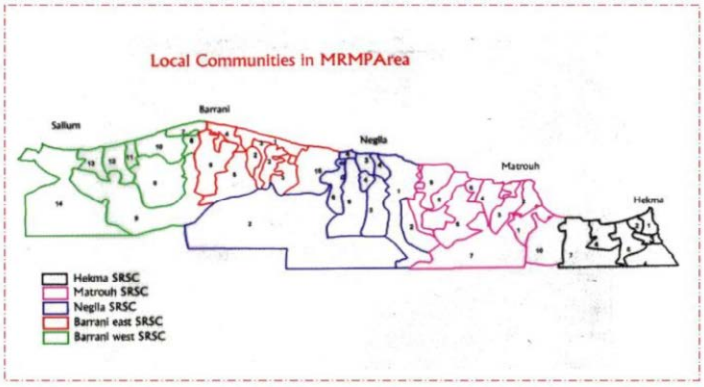
The case study region is localised on the North West Coast from Marsa Matruh city to the Libyan frontier on 320 km and extending inland on 60 km. The area is located in a semi-arid and arid region. Annual rainfall is low and erratic, average of 155mm, which is scarce to meet agricultural needs (World Bank, 2004). The region is facing great challenges for sustainable development. Firstly, the combination of recent settlement, population growth and on-going land privatization has increased pressures on natural resources (Salkini & Moselhy, 2007). Additionally, new crops production has led to more intensive land use patterns with consequences of land degradation and desertification (Cole & Altorki, 1998a). Secondly, sustainable water management for domestic and agricultural uses is a major challenge. The region is endowed by 218 watersheds in the form of *wadi* (valleys), which present potential for water harvesting (WH) (figure 1).

Figure 1. Source (Frasier, 2005)

This consists of a water catchment system with dykes to control the runoff, and storage facilities such as cisterns and reservoirs. This technique has the potential for improvement in land rehabilitation, vegetative cover and aquifers. It also has socio-economic potential for stabilization and enhancement of living standards. However, these techniques require an integrated watershed management to take into account ecological, socio-economic and political concerns in order to achieve sustainable land and water management (Shiferw & al., 2009). The study chose to focus on a participatory natural resources management project funded by the World Bank: the Matruh Resources Management Project (MRMP), completed in 2002. It is considered "a pioneering effort for the Government of Egypt, being the first integrated natural resource management project involving local tribal populations in rain-fed areas." (World Bank, 2003 p. 2). The project endorses a multi-sectoral and decentralized approach, with a participatory design in order to target the poorest and promote integrated natural resources management (World Bank, 2003). The Sustainable Development Centre for Matruh Resources (SDCMR) now handles its follow-up activities. Bedouin population's participation is based on the organization of 38 Local Communities (LCs) designed with respect to tribes' boundaries and pre-existing water harvesting structures (map 1). Within these LCs, each 50 families choose a representative, *mandoubeen,* for the project. The region is inhabited by estimated 230 000 people and around 30 000 households (GEF, 2001). Previously living on nomadic patterns they are now sedentarized. The population's main occupation is farming activities such as livestock, barley production and horticulture. In the region, 76.7 % of the population live with less than 1.25 US$ a day and 23.3% between 1.25 and 2 US$ a day (Alary & et al., 2011). Poverty is mainly due to drought. To cope with changing climatic conditions, the local population manages to live from off-farm activities. The Bedouin society relies on strong traditions, identity and customary law (*urf*), while being also influenced by broader changes within the Egyptian society (Cole & Altorki, 1998c). The population is divided among 6 major sub-tribes from Awlad Ali descents, made of 42 "clans" organized in households (*bayt*) of 3 to 4 generations. Even tough sub-tribes are almost equal, Ali Ahmar lineage is more influential on national politics, with seats in national parliament, on local decisions and more successful in entrepreneurship today (Cole & Altorki, 1998c). Tribal and land tenure is rooted in *urf.* Village councils deal with land and water disputes (Cole & Altorki, 1998b; Salkini & Moselhy, 2007). However, territorial boundaries are actually determined by access to water, inducing access to grazing land. Therefore, tribal control over water wells brings control over territories and resources (Cole, 2003). Yet, the history of state intervention for the development of water supply has led to self-asserted privatization of water points and consequently of rangelands (Cole & Altorki, 1998c). Water management in the region is mainly under the Ministry of Agriculture's supervision. MALR's objective for rainfed areas is improving water use efficiency with modern techniques for water harversting (MALR, 2010). With respects to the NWRP, MWRI is intensifying and expanding the WH techniques such as large reservoirs in the North West Coast. Overall the

community's needs are estimated of 8 millions cubic meters per year, whilst the project activities have met only 5 millions cubic meters capacity. Therefore, it is necessary to assess the achievements of these integration efforts. However the specificity of rainfed areas brings challenges to the national integrated framework.





Map 1.Source Moselhy 2020.

The research was composed of four stages. First, a literature and policy review on IWRM and Egypt's water management context was conducted. Part of secondary data resources was based on World Bank and GEF reports regarding the MRMP. Second, a two-week fieldwork in Matruh and Neguila centres was conducted to interview ten community individuals chosen along wadi stream with different agricultural activities and from different families. Eight officials from the local government were also interviewed. Themes addressed were water use pattern, water rights and access, relations with official authorities and project team, and their perspective on the project and environmental changes. Third, a desk study was held on specific issues of water management in rainfed areas and Bedouin institutional and political history to inform the primary data collected. Finally, a second fieldwork in wadi Halazin, Matruh centre, was conducted to

investigate water rights issues and project implementation along one wadi. This wadi was selected for its length, its area and its social, agronomical and geographical characteristics. The researcher interviewed eight Bedouin breeders from four families, and two officials from the project and the local government. Breeders were selected according to their location on the wadi from downstream to upstream and their tribal lineage. The topics addressed were specifically on water flow along the wadi and conflict resolution schemes. The methodology used was in-depth open-ended interviews. Bedouins households as well as directors from the units of the SDCMR and agents from the governorate departments were interviewed with the help of a translator. It is acknowledged that the size of the sample is limited to generalize conclusions drawn from the research. However, the small-scale focus enables to identify community and political logics of water control.

3. Analysis and Discussion

This section addresses the potential of participation for achieving IWRM in light of the project's experience. The interviews helped identified main challenges for IWRM in the region. It challenges the participation impact on water allocation and questions empowerment gains for the local population in water governance. Building on this, it assesses the potential of such approach for sustainable water use.

Evaluation grid	Observations	Analysis
Equitable allocation	- Unequal distribution of water harvesting structures - Discrepancy with poverty profile - Privatization of equipment - Water rights conflicts	- Vulnerability to elite capture - Lack of dynamic stakeholders' analysis - Failure to consider political and power relations among the community
Empowered stakeholders	- General awareness - Poor people and women participate less - Powerful individuals benefit more - Lack of local control on implementation	- Limited empowerment - Absence of challenged structures of power - Shallow transfer of natural resource governance
Sustainability	- Lack of national coordination for resource use - Lack of long-term thinking - Unequal water balance affects downstream cultivation and soil fertility - Positive impact for yields and livelihoods - Soil erosion and desertification	- Issues of water and fodder purchase are not considered - Nation-wide political economy factors bypass local environmental imperatives - Water systems prioritized over ecosystems preservation - Lack of integrated valley development

a. evaluation grid

The insights gained from the fieldworks in Neguila and Matruh centres were threefold. First, interviewees highlighted an unequal distribution of water harvesting structures, which tends to benefit more often the rich and the *mandoubeen*'s relatives as well as the more powerful and larger farmers. It was also noted that community's representatives are embedded in elite and power circles. The distribution of support does not match with the poverty profile of the region. Secondly, fieldwork revealed the occurrence of privatization of equipment. In times of drought and growing population, beneficiaries appear to be less willing to share equipment, thereby depriving

communal access to reservoirs. Finally, an issue deemed crucial was the problem of 'water rights' and blockage of water on the wadi. Unlawful dykes or heightened dykes impede equal water balance along the wadi, especially for downstream users. This creates conflicts between upstream and downstream users in low-peak rainfall. Some upstream users impinge water to flow downstream with dams. Some families have more water harvesting equipment than needed while others purchase water from Nile water tanks for the end of year. Moreover, the interviewees underscored that there did not exist any resolution mechanism for this kind of conflict.

The second fieldwork in wadi Halazin has helped to elucidate 'water rights' issues. Along the wadi, social differentiation is observed. Divided among 5 sub-tribes, population size differs from one to another. Tribal arrangements and family distribution shape parcel sizes. Significantly, problems of water management have arisen along wadi development. Water balance was reported decreasing for downstream inhabitants with negative impacts on their cultivation. The lack of systematic institutional arrangements leaves water rights problems to be dealt on an individual basis. Conflicts linked to land boundaries tend to exacerbate with the distribution of WH structures. The *mandoubeen's* role in this concern was not seen positively as they sometimes allocated more structures to some landowners than others. Regarding local population's involvement in the project, general awareness of the project activities and claims opportunities for new funding was observed. The LCs design has helped people channelling their requests to government. However, the poor and women take a less important part in the participation process and thus benefit less. Gender issues are a delicate topic in the community. Despite being targeted by 25% of the project funds and the recruitment of a special female adviser to hold parallel meetings, women's role in water management lacks recognition. In addition, local population depends on external funding whilst it is deprived from autonomous control on the funds. Finally, the interviews identified the lack of responsiveness from the local government as a problem, which is not addressed by the participation approach of the project. Nevertheless, the project has brought benefits with water harvesting structures providing drinking water for households and livestock. The wadi is a diverse environment with different land latitudes, topography and water harvesting potential. Soil quality varies as well as cultivation from horticulture to barley. According to the interviews from wadi Halazin, beneficiaries evaluate the positive impact of wadi development in terms of increased horticulture yields, improved soil fertility and improved livelihoods. However, drawbacks were pointed to such as disappearance of shrubs, trees diseases and soil erosion in the long term. Deeper soil and cultivation study is needed to evaluate the impact of wadi development on these issues. The project downside has been its weak impact for enabling integrated water management in the area. Actually, the Government of Egypt misses to coordinate efforts towards the region: plans are either inappropriate or with no impact on the current activities. Funds are fragmented and coordination mechanisms between MRWI and MALR are not enforced. Integration thinking has not yet changed the local government's approach. Lack of coordination and communication at the local level hinder integrated management for land, water and income-generating resources. The SDCMR remains isolated from other departments. The lack of attention given to crops, soil and water salinity as well as livestock production for income-generating activities was pointed to as a strong weakness of the project. Moreover, interviewees confirmed the lower land productivity, loss of plant species on the rangelands. The two concepts of rangeland management and *wadi* development are in opposition since improving rangelands reduces downstream runoff (Frasier, 2005). In fact introducing WH techniques along the *wadi* makes upstream areas: "users for water rather than a water catchment" (ibid, p.5). It stems from the lack of monitoring and evaluation of environmental changes in the project structure.

These findings pave the way to discuss the IWRM framework. Firstly, they point to the vulnerability of the distribution of water collection structures to elite capture. The empowerment gains for the local population to influence policy-making are limited. Also, they question the impact of integrated wadi management on sustainable development.

2.1 Allocation

These findings suggest that the lack of stakeholders' dynamic analysis in the participation framework has allowed the elite to capture the project. It demonstrates how the failure to see the community as a complex social and economic organization leads to inequitable allocation within the community (Agrawal & Gibson, 1999). In particular, the project participatory approach is based on an unrealistic view of Bedouin tribes as solidary and egalitarian (Cleaver, 1999). Likewise, the project apolitical decision of relying on community social control mechanisms fails to address the issue of water rights along the *wadis.* This is problematic since the "Bedouin system alone is not effective to resolve potential disputes over water harvesting" (Oweis et al., 2007, p. 10). Moreover it underscores the inequity engendered by the technical focus and lack of political consideration (Mollinga, 2008). It shows a deficiency of integrated water management to consider stakeholders with adequate capacity. It thus reduces its potential for equitable access, social welfare and poverty reduction. Besides, crucial issues such as land tenure and privatization are not addressed to match with the equity and social welfare requirements of IWRM. At the regional scale, the equitable allocation objective is not fully achieved. In fact, the scarcity of funds attributed to the region is problematic as rapid population growth and several years of drought accentuate the population's inequitable access to water supply. Moreover, water scarcity leads farmers to buy most of their fodder outside the region (Alary & al., 2011). This implies that this integrated water management project is undermined by the political economy of water allocation at a higher scale (Allan, 2003). This demonstrates that failure to address allocation issues leads to inequitable outcomes, especially for the most marginalized (Saravanan & al., 2009). This observation underscores how pre-eminent allocation issues of IWRM are rarely tackled. This sheds lights on how participation has not resolved asymmetric power relations to provide for a fair allocation of water.

2.2 Empowerment

Drawing from this, it is argued that local people and especially the most marginalized are only partially empowered. Effectively, the dynamics of power and politics within the Bedouin community are not considered in the local water governance process. Community's representatives are embedded in elites circles and do not challenge the existing political order. Furthermore, the project leans upon tribal lineages and hierarchies for decision-making such as the *aqla,* the *sheikhs*, which are linked to official authorities. Thus, despite its attempt to avoid conflicts by designing LCs borders, the project does not tackle tribal asymmetric relations. This limits its transformative power for the most marginalized, since their interests can be bypassed to the benefits of the more powerful. Furthermore, this particular project follows the logic of assistencialism characterised by local development goals, external project practices and resistance to decentralization (Armanios, 2010). The transfer of power over natural resource management is thus superficial. This stems from the dual logic of participatory natural resource management identified by Mosse (2001), one of participatory planning and one of operational reasoning from central authorities. Drawing from these elements, it is shown how participation asks local community to be responsible, without enabling them to, thus perpetuating the political order. It demonstrates how empowerment gains for local and marginalized stakeholders are limited by power differentials (Mirumachi & VanWyk, 2010).

2.3 Sustainability

It is then explored the extent to which participation outcomes of the project engage with the integrated water management national framework for sustainable management in the region. Various national government agencies implement activities in the region: MRWI, MALR and Ministry of Housing. However they do not coordinate their policies for water harvesting. Effectively, the culture of integration at the local government level is not yet achieved. Consequently, the lack of co-operation among national and local stakeholders can result in project failures (Luzi, 2010). Nowadays, Matruh rainfed region presents less national strategic importance for the Ministries, which deal mainly with new reclaimed lands and irrigated areas. It does not acknowledge the dynamic of fodder purchase out of the region in accounting for water use. This demonstrates how the political economy directs government's action towards maintaining Bedouin population's livelihoods without addressing the region's sustainability and integration challenges. In fact, developmental and social welfare goals of the government take precedence over environmental concerns (World Bank, 2004). Moreover, evidence of continuing desertification due to overgrazing and low rainfall highlights how the current practices of IWRM limits its potential for sustainable resource use (GEF, 2001). Water structures take priority; subsequently the mandate of IWRM to protect vital ecosystems is jeopardized. The lack of political will and human resources deprives the local government from adequate capacity and management tools for co-ordinated water and land resources management. Subsequently, barriers to coordination and communication impact the integrated land and water management at the watershed level. Additionally, new cultivation introduced in the coastal strip such as fig and olives trees is not always adapted to the soil quality of the region. The current practices do not address the trade-off between wadi development and rangelands management. These consequences were identified as resulting from the lack of integrated valley development model, prevailing in Egypt's irrigated areas. Therefore, the conceptual underpinning and the practice of the project are not adequately integrated so as to ensure sustainable development. It fails to look beyond the watershed to address the unsustainable political economy of water governance (Shiferw & al., 2009). This matches with Allan's call (2005) for IWRM to integrate the society, economy as well as the environment interests. Building on this project, it is demonstrated that the politics of water allocation and the lack of consideration of environmental issues hinder the potential of IWRM for sustainable resource use. The Matruh case shows that stakeholders' involvement does not necessarily lead to a more sustainable use of natural resources.

3. Conclusion

The purpose of this paper has been to investigate the potential of stakeholders' participation to achieve sustainable natural resources management. This paper claims that despite the adoption of integrated water management and stakeholders' participation, the critical issues of equitable allocation at the national, regional and local scales are not tackled and uneven benefits persist. To address critical sustainability issues, the conceptual underpinnings of participation in IWRM need to go beyond the watershed. The political dynamics of inclusion and exclusion, power reassertion and empowerment in water management constrain the contribution of stakeholders to sustainable development. As long as the power differentials go unchallenged, IWRM input for sustainable resource use will be limited. To this end, key issues of the water management (Allan, 2003; Mollinga, 2008) and participation (Cooke & Kothari, 2001; Mosse, 2008) literatures were addressed in order to unveil the political processes underpinning water governance. The main challenges for achieving IWRM through participation were scrutinized to establish an analysis framed by allocation, power differentials and sustainability issues. Building on qualitative data analysis from the rainfed desert region of Matruh in Egypt, the paper has set out some interesting deficiencies emerging from participatory technologies for the pursuit of IWRM and sustainable

development. Focused on internal power relations within the Bedouin community and with state authorities, the paper has disclosed the influence of power differentials in water management. Water allocation is subject to elite capture and interference of national priorities bypassing local community's needs. Empowerment of the most marginalized is constrained by unaddressed power differentials in the community. Combined with these factors, lack of coordination and integration thinking beyond the watershed limit the influence of participation on sustainable water and land management. The following conclusion can be drawn that IWRM and participation engage with political processes embedded in a political economy of water allocation and coalition of interests. Under cover of stakeholders' participation, the political order is maintained, thus constraining the equitable, empowerment and sustainability gains of IWRM. Subsequently, it has confirmed the adequacy of the political sociology approach to water governance. The tendency of water governance to be captured by vested interests elevates the importance to recognise and challenge power differentials among stakeholders. As a result, it exemplifies that participatory spaces that challenge power differentials for the most marginalized in water governance have to be enforced for stakeholders' participation to contribute to sustainable use of natural resources. The findings suggest further research to investigate how uneven power relations can be mitigated for sustainable water management.

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